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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/876,324	06/07/2001	Chandler J. Kennedy	47080-00033	8428

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EXAMINER

LANDAU, MATTHEW C

ART UNIT	PAPER NUMBER
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2815

DATE MAILED: 07/11/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/876,324

Applicant(s)

KENNEDY, CHANDLER J.

Examiner

Matthew Landau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 April 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6,8--17, and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) 9-16 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 26-35 is/are allowed.
- 6) ☒ Claim(s) 1-3,6 and 8 is/are rejected.
- 7) ☒ Claim(s) 4 and 5 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☒ The proposed drawing correction filed on 25 April 2003 is: a) ☒ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Drawings

The proposed drawing correction and/or the proposed substitute sheets of drawings, filed on April 25, 2003 have been approved. A proper drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The correction to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

over come Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Meissner et al. (US Pat. 5,563,899, hereinafter Meissner).

In regard to claim 1, Figure 3b of Meissner discloses an optically-pumped laser device, comprising: a nonionic base layer 7 (left side); and an ionic layer 12 (left half) attached to said nonionic base layer through an optical-quality interface, a cross-section through said device in a direction perpendicular to said interface having a trapezoidal shape.

In regards to claim 2, Meissner discloses said optical-quality interface is a diffusion-bonded interface (column 11, lines 52-55).

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In regards to claim 3, the product-by-process limitation “wherein said optical-quality interface is a layer-growth type interface” does not structurally distinguish the claimed invention over Meissner.

Claims 1-3 are rejected under 35 U.S.C. 102(b) as being anticipated by Injeyan et al. (US Pat. 6,094,297, hereinafter Injeyan).

In regards to claim 1, Figure 1 of Injeyan discloses an optically-pumped laser device, comprising: a nonionic base layer 36 (left side); and an ionic layer 38 (left half) attached to said nonionic base layer through an optical-quality interface 42, a cross-section through said device in a direction perpendicular to said interface having a trapezoidal shape.

In regards to claim 2, Injeyan discloses said optical-quality interface is a diffusion-bonded interface (column 3, lines 25-30).

In regards to claim 3, the product-by-process limitation “wherein said optical-quality interface is a layer-growth type interface” does not structurally distinguish the claimed invention over Injeyan.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Injeyan in view of Fulbert et al. (US Pat. 6,014,393, hereinafter Fulbert).

In regards to claim 6, the difference between Injeyan and the claimed invention is a Yb:YAG layer having a ytterbium concentration of about 15%. Fulbert discloses a YAG based laser material doped with active ions (Nd), wherein the active ion concentration is 15% (column 5, lines 40-60). In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Injeyan by using an active ion concentration of about 15%. The ordinary artisan would have been motivated to modify Injeyan in the manner described above for the purpose of improving the pumping efficiency (column 2, lines 13-21). Note that the ordinary artisan would reasonably expect to obtain similar results using ytterbium in place of neodymium, since they are both rare earth elements and have similar properties.

Claim 8 is rejected under 35 U.S.C. 103(a) as being unpatentable over Injeyan in view of Tajima.

The difference between Injeyan and the claimed invention is said ionic layer has an isolation groove. Figure 1 of Tajima discloses a laser medium with an ionic layer 12 attached to a nonionic layer 11, wherein the ionic layer 12 has an isolation groove 15. In view of such teaching, it would have been obvious to the ordinary artisan at the time the invention was made to modify the invention of Injeyan by including an isolation groove in the ionic layer. The ordinary artisan would have been motivated to modify Injeyan in the manner described above for the purpose of suppressing parasitic oscillation (column 6, lines 5-13).

Allowable Subject Matter

Claims 4 and 5 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: In regards to claim 4, the prior art of record does not disclose or suggest, either singularly or in combination, at least the limitations of all cross-sections passing through said interface are trapezoidal. In regards to claim 5, the prior art of record does not disclose or suggest, either singularly or in combination, at least the limitations of an angle between said side surfaces and said bottom surface being about 60 degrees.

Claims 17 and 26-35 are allowed.

The following is an examiner's statement of reasons for allowance: In regards to claim 17, the prior art of record does not disclose or suggest, either singularly or in combination, at least the limitations of side surfaces tilted inwardly from the bottom surface at an angle of about 60 degrees. In regards to claims 26-35, the prior art of record does not disclose or suggest, either singularly or in combination, at least the limitations of energy emitted from said ionic layer reflecting at least once from said bottom surface of said nonionic layer and resulting in an output beam emitted from said end surfaces.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue

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fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Response to Arguments

Applicant's arguments with respect to claims 1-6, 8-17, and 26-35 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Matthew C. Landau whose telephone number is (703) 305-4396.

The examiner can normally be reached from 8:00 AM-4:30 PM. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Lee can be reached on (703) 308-1690. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7722 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.


JEROME JACKSON
PRIMARY EXAMINER

Matthew C. Landau

Examiner

June 30, 2003